UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,049	09/28/2001	Fritz A. Boehm	31876.0263	5410

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EXAMINER
STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/966,049	BOEHM, FRITZ A.
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _28 September 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-14_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-14_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _9/28/01_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-14 were examined.

Specification (Abstract)

2.   Applicant is reminded of the proper language and format for an abstract of

the disclosure.

The abstract should be in narrative form and generally limited to a single

paragraph on a separate sheet within the range of 50 to 150 words. It is

important that the abstract not exceed 150 words in length since the space

provided for the abstract on the computer tape used by the printer is limited. The

form and legal phraseology often used in patent claims, such as "means" and

"said," should be avoided. The abstract should describe the disclosure

sufficiently to assist readers in deciding whether there is a need for consulting the

full patent text for details.

The language should be clear and concise and should not repeat

information given in the title. It should avoid using phrases which can be implied,

such as, "The disclosure concerns," "The disclosure defined by this invention,"

"The disclosure describes," etc.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 2, 6-9 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention. Claim 2: The word system is

ambiguous since a system pertains to a method or an apparatus. Claim 6:

Examiner assumes claim 6 is an apparatus claim, which unclear, but is also

linked to independent system claim 2 and independent method claims 3 and 4.

Claims 7-9: The statutory type is unclear.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
>
> (e) the invention was described in a patent granted on an application for patent by another
> filed in the United States before the invention thereof by the applicant for patent, or on an
> international application by another who has fulfilled the requirements of paragraphs (1), (2),
> and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6.   Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by

Weber et al., (U.S. Patent 6,889,180 (2005)). Weber et al., discloses monitoring (

column 5, lines 35-43) a design verification (column 8, lines 2-5) event and

reports a status event to a database (column 1, lines 23-25) (abstract).

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes

prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be

overcome either by a showing under 37 CFR 1.132 that any invention disclosed

but not claimed in the reference was derived from the inventor of this application

and is thus not the invention "by another," or by an appropriate showing under 37

CFR 1.131.

Claim 1. A grid that monitors (column 5, lines 35-43) a design simulation (column

7, lines 34-44) to support design verification (column 8, lines 2-5) coverage

analysis, comprising; a monitor (column 5, lines 35-43) declaration (column 5,

lines 33-41) that provides a unique name for the grid; n ordered axis declarations

(column 5, lines 33-41) wherein n is at least 1, each said axis declaration

(column 5, lines 33-41) names an axis comprising a first axis through a nth axis,

wherein each said axis corresponds to a functional attribute of the design and

has an axis size that comprises two or more functional states (column 4, lines 12-

31) of said functional attribute and has a corresponding axis variable; one or

more logic expressions that evaluate whether the design has achieved one or

more of said functional states (column 4, lines 12-31), said logic expressions set

each one of said n axis variables to an integer value corresponding to said

functional state when said logic expressions evaluate true; and a grid declaration

(column 5, lines 33-41) that converts said n axis variables to a unique linear

index value that corresponds to the cross-product (column 5, lines 43-45) of said

functional states (column 4, lines 12-31) achieved by the design, said grid

declaration (column 5, lines 33-41) also records a hit at said unique linear index

value.

Claim 2. A system that monitors (column 5, lines 35-43) a design simulation

(column 7, lines 34-44) using a grid to support design verification (column 8, lines

2-5) coverage analysis, comprising; a monitor (column 5, lines 35-43)

declaration (column 5, lines 33-41) that provides a unique name for the grid; n

ordered axis declarations (column 5, lines 33-41) wherein n is at least 1, each

said axis declaration (column 5, lines 33-41) names an axis comprising a first

axis through a nth axis, wherein each said axis corresponds to a functional

attribute of the design and has an axis size that comprises two or more functional

states (column 4, lines 12-31) of said functional attribute and has corresponding

axis variable; one or more logic expressions that evaluate whether the design

has achieved one or more of said functional states (column 4, lines 12-31), said

logic expressions set each one of said n axis variables to an integer value

corresponding to said functional state when said logic expressions evaluate true;

and a grid declaration (column 5, lines 33-41) that converts said n axis variables

to

a unique linear index value that corresponds to the cross-product (column 5,

lines 43-45) of said functional states (column 4, lines 12-31) achieved by the

design, said grid declaration (column 5, lines 33-41) also records a hit at said

unique linear index value.

Claim 3. A method that makes a grid that monitors (column 5, lines 35-43) a

design simulation (column 7, lines 34-44) to support design verification (column

8, lines 2-5) coverage analysis, comprising: providing a monitor (column 5, lines

35-43) declaration (column 5, lines 33-41) that provides a unique name for the

grid; providing n ordered axis declaration (column 5, lines 33-41) wherein n is at

least 1, each said axis declaration (column 5, lines 33-41) names an axis

comprising a first axis through a nth axis, wherein each said axis corresponds to

a functional attribute of the design and has an axis size that comprises two or

more functional states (column 4, lines 12-31) of said functional attribute and has

a corresponding axis variable; providing one or more logic expressions that

evaluate whether the design has achieved one or more of said functional states

(column 4, lines 12-31), said logic expressions set each one of said n axis

variables to an integer value corresponding to said functional state when said

logic expressions evaluate true; and providing a grid declarations (column 5,

lines 33-41) that converts said n axis variables to a unique linear index value that

corresponds to the cross-product (column 5, lines 43-45) of said functional states

(column 4, lines 12-31) achieved by the design, said grid declaration (column 5,

lines 33-41) also records a hit at said unique linear index value.

Claim 4. A method that monitors (column 5, lines 35-43) a design simulation

(column 7, lines 34-44) using a grid to support design verification (column 8, lines

2-5) coverage analysis, comprising: declaring a monitor (column 5, lines 35-43)

in a monitor (column 5, lines 35-43) declaration (column 5, lines 33-41) that

provides a unique name for the grid; declaring n ordered axes using axis

declarations (column 5, lines 33-41), wherein n is at least 1, each said axis

declaration (column 5, lines 33-41) names an axis comprising a first axis through

a nth axis, wherein each said axis corresponds to a functional attribute of the design and has an axis size that comprises two or more functional states (column 4, lines 12-31) of said functional attribute and has a corresponding axis variable; evaluating one or more logic expressions to determine whether the design has achieved one or more of said functional states (column 4, lines 12-31); setting each one of said n axis variables to an integer value corresponding to said functional state when said logic expressions evaluate true; and using a grid declaration (column 5, lines 33-41) to convert said n axis variables to a unique linear index value that corresponds to the cross-product (column 5, lines 43-45) of said functional states (column 4, lines 12-31) achieved by the design and to record a hit at said unique linear index value.

Claim 5. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method that monitors (column 5, lines 35-43) a design simulation using a grid to support design verification (column 8, lines 2-5) coverage analysis, comprising: declaring a monitor (column 5, lines 35-43) in a monitor (column 5, lines 35-43) declaration (column 5, lines 33-41) that provides a unique name for the grid; declaring n ordered axes using axis declaration (column 5, lines 33-41), wherein n is at least 1, each said axis declaration (column 5, lines 33-41) names an axis comprising a first axis through a nth axis, wherein each said axis corresponds to a functional attribute of the design and has an axis size that comprises two or more functional states (column 4, lines 12-31) of said functional attribute and has a

corresponding axis variable; evaluating one or more logic expressions to determine whether the design has achieved one or more of said functional states (column 4, lines 12-31); setting each one of said n axis variables to an integer value corresponding to said functional state when said logic expressions evaluate true; and using a grid declaration (column 5, lines 33-41) to convert said n axis variables to a unique linear index value that corresponds to the cross-product (column 5, lines 43-45) of said functional states (column 4, lines 12-31) achieved by the design and to record a hit at said unique linear index value.

Claim 6. A dependent claim according to Claim 1, 2, 3, 4 or 5 (column 5, lines 35-43; column 4, lines 12-31; column 8, lines 2-5; column 7, lines 34-44) wherein said grid declaration (column 5, lines 33-41) maintains a map of hits at each linear index value determined during a simulation, and downloads said map to a database (column 1, lines 23-25).

Claim 7. A dependent claim according to Claim 1, 2, 3, 4 or 5 (column 5, lines 35-43; column 4, lines 12-31; column 8, lines 2-5; column 7, lines 34-44) wherein said unique linear index value is determined by multiplying the integer value of each said axis variable except the nth said axis variable by the product of the sizes of each higher-order axis than the axis to which said axis variable corresponds, summing the results, and adding the integer value of the nth said axis variable.

Claim 8. A dependent claim according to Claim 1, 2, 3, 4 or 5, wherein said

monitor (column 5, lines 35-43) declaration (column 5, lines 33-41), said axis

declaration (column 5, lines 33-41), said logic expressions, and said grid

declaration (column 5, lines 33-41) are translated into a computer program

comprising a higher-order software language (e.g., C++; column 8, lines 55-57)

using a parser (column 6, line 3 with figure 6).

Claim 9. A dependent claim according to Claim 8 wherein said parser (column 6,

line 3 with figure 6) further translates each said unique linear index value to a

character string comprising a concatenation of character strings that correlate to

said grid name and to each said functional state within said cross-product

(column 5, lines 43-45) achieved by the design.

Claim 10. A grid that monitors (column 5, lines 35-43)a design simulation

(column 7, lines 34-44) to support design verification (column 8, lines 2-5)

coverage analysis, comprising: a monitor (column 5, lines 35-43) declaration

(column 5, lines 33-41) that provides a unique name for the grid; n ordered axis

declaration (column 5, lines 33-41) wherein n is at least 1, each said axis

declaration (column 5, lines 33-41) names an axis comprising a first axis through

a nth axis, wherein each said axis corresponds to a functional attribute of the

design and has an axis size that comprises two or more functional states (column

4, lines 12-31) of said functional attribute and has a corresponding axis variable;

one or more logic expressions that evaluate whether the design has achieved

one or more of said functional states (column 4, lines 12-31), said logic

expressions set each one of said n axis variables to an integer value

corresponding to said functional state when said logic expressions evaluate true;

a grid declaration (column 5, lines 33-41) that converts said n axis variables to a

unique linear index value that corresponds to the cross-product (column 5, lines

43-45) of said functional states (column 4, lines 12-31) achieved by the design by

multiplying the integer value of each said axis variable except the nth said axis

variable by the product of the sizes of each higher-order axis than the axis to

which said axis variable corresponds, summing the results, and adding the

integer value of the nth said axis variable, said grid declaration (column 5, lines

33-41) also records a hit and maintains a map of hits at each linear index value

determined during a simulation, and downloads said map to a database (column

1, lines 23-25); and a parser (column 6, line 3 with figure 6) that translates said

monitor (column 5, lines 35-43) declaration (column 5, lines 33-41), said axis

declaration (column 5, lines 33-41), said logic expressions, and said grid

declaration (column 5, lines 33-41) into a computer program comprising a higher-

order software language (column 8, lines 55-57), said parser (column 6, line 3

with figure 6) further translates each said unique linear index value to a

character string comprising a concatenation of character strings that correlate to

said grid name and to each said functional state within said cross-product

(column 5, lines 43-45) achieved by the design.

Claim 11. A system that monitors (column 5, lines 35-43) a design simulation

(column 7, lines 34-44) using a grid to support design verification (column 8, lines

2-5) coverage analysis, comprising: a monitor (column 5, lines 35-43) declaration

(column 5, lines 33-41) that provides a unique name for the grid; n ordered axis

declaration (column 5, lines 33-41) wherein n is at least 1, each said axis

declaration (column 5, lines 33-41) names an axis comprising a first axis through

a nth axis, wherein each said axis corresponds to a functional attribute of the

design and has an axis size that comprises two or more functional states (column

4, lines 12-31) of said functional attribute and has a corresponding axis variable;

one or more logic expressions that evaluate whether the design has achieved

one or more of said functional states (column 4, lines 12-31), said logic

expressions set each one of said n axis variables to an integer value

corresponding to said functional state when said logic expressions evaluate true;

a grid declaration (column 5, lines 33-41) that converts said n axis variables to a

unique linear index value that corresponds to the cross-product (column 5, lines

43-45) of said functional states (column 4, lines 12-31) achieved by the design by

multiplying the integer value of each said axis variable except the nth said axis

variable by the product of the sizes of each higher-order axis than the axis to

which said axis variable corresponds, summing the results, and adding the

integer value of the nth said axis variable, said grid declaration (column 5, lines

33-41) also records a hit and maintains a map of hits at each linear index value

determined during a simulation, and downloads said map to a database (column

1, lines 23-25); and a parser (column 6, line 3 with figure 6) that translates said

monitor (column 5, lines 35-43) declaration (column 5, lines 33-41), said axis

declaration (column 5, lines 33-41), said logic expressions, and said grid

declaration (column 5, lines 33-41) into a computer program comprising a higher-

order software language (column 8, lines 55-57), said parser (column 6, line 3

with figure 6) further translates each said unique linear index value to a

character string comprising a concatenation of character strings that correlate to

said grid name and to each said functional state within said cross-product

(column 5, lines 43-45) achieved by the design.

Claim 12. A method that makes a grid that monitors (column 5, lines 35-43) a

design simulation (column 7, lines 34-44) to support design verification (column

8, lines 2-5) coverage analysis, comprising: providing a monitor (column 5, lines

35-43) declaration (column 5, lines 33-41) that provides a unique name for the

grid; providing n ordered axis declaration (column 5, lines 33-41) wherein n is at

least 1, each said axis declaration (column 5, lines 33-41) names an axis

comprising a first axis through a nth axis, wherein each said axis corresponds to

a functional attribute of the design and has an axis size that comprises two or

more functional states (column 4, lines 12-31) of said functional attribute and has

a corresponding axis variable; providing one or more logic expressions that

evaluate whether the design has achieved one or more of said functional states

(column 4, lines 12-31), said logic expressions set each one of said n axis

variables to an integer value corresponding to said functional state when said

logic expressions evaluate true; providing a grid declaration (column 5, lines 33-

41) that converts said n axis variables to a unique linear index value that

corresponds to the cross-product (column 5, lines 43-45) of said functional states

(column 4, lines 12-31) achieved by the design by multiplying the integer value of

each said axis variable except the nth said axis variable by the product of the

sizes of each higher-order axis than the axis to which said axis variable

corresponds, summing the results, and adding the integer value of the nth said

axis variable, said grid declaration (column 5, lines 33-41) also records a hit and

maintains a map of hits at each linear index value determined during a

simulation, and downloads said map to a database (column 1, lines 23-25); and

providing a parser (column 6, line 3 with figure 6) that translates said monitor

(column 5, lines 35-43) declaration (column 5, lines 33-41), said axis declaration

(column 5, lines 33-41), said logic expressions, and said grid declaration (column

5, lines 33-41) into a computer program comprising a higher-order software

language (e.g., C++; column 8, lines 55-57), said parser (column 6, line 3 with

figure 6) further translates each said unique linear index value to a character

string comprising a concatenation of character strings that correlate to said grid

name and to each said functional state within said cross-product (column 5, lines

43-45) achieved by the design.

Claim 13. A method that monitors (column 5, lines 35-43) verification (column 8,

lines 2-5) coverage analysis, comprising: a design simulation   (column 7, lines

34-44) using a grid to support design declaring a monitor (column 5, lines 35-43)

in a monitor (column 5, lines 35-43) declaration (column 5, lines 33-41) that

provides a unique name for the grid; declaring n ordered axes using axis

declaration (column 5, lines 33-41), wherein n is at least 1, each said axis

declaration (column 5, lines 33-41) names an axis comprising a first axis through

a nth axis, wherein each said axis corresponds to a functional attribute of the

design and has an axis size that comprises two or more functional states (column

4, lines 12-31) of said functional attribute and has a corresponding axis variable;

evaluating one or more logic expressions to determine whether the design has

achieved one or more of said functional states (column 4, lines 12-31); setting

each one of said n axis variables to an integer value corresponding to said

functional state when said logic expressions evaluate true; using a grid

declaration (column 5, lines 33-41) that converts said n axis variables to a unique

linear index value that corresponds to the cross-product (column 5, lines 43-45)

of said functional states (column 4, lines 12-31) achieved by the design by

multiplying the integer value of each said axis variable except the nth said axis

variable by the product of the sizes of each higher-order axis than the axis to

which said axis variable corresponds, summing the results, and adding the

integer value of the nth said axis variable, said grid declaration (column 5, lines

33-41) also records a hit and maintains a map of hits at each linear index value

determined during a simulation, and downloads said map to a database (column

1, lines 23-25); and translating said monitor (column 5, lines 35-43) declaration

(column 5, lines 33-41), said axis declaration (column 5, lines 33-41), said logic

expressions, and said grid declaration (column 5, lines 33-41) into a computer

program comprising a higher-order software language, and translating each said

unique linear index value to a character string comprising a concatenation of

character strings that correlate to said grid name and to each said functional sate

within said cross-product (column 5, lines 43-45) achieved by the design.

Claim 14. A program storage device readable by a machine, tangibly embodying

a program of instructions executable by the machine to perform a method that

monitors (column 5, lines 35-43) a design simulation using a grid to support

design verification (column 8, lines 2-5) coverage analysis, comprising: declaring

a monitor (column 5, lines 35-43) in a monitor (column 5, lines 35-43) declaration

(column 5, lines 33-41) that provides a unique name for the grid; declaring n

ordered axes using axis declaration (column 5, lines 33-41), wherein n is at least

1, each said axis declaration (column 5, lines 33-41) names an axis comprising a

first axis through a nth axis, wherein each said axis corresponds to a functional

attribute of the design and has an axis size that comprises two or more functional

states (column 4, lines 12-31) of said functional attribute and has a

corresponding axis variable; evaluating one or more logic expressions to

determine whether the design has achieved one or more of said functional states

(column 4, lines 12-31); setting each one of said n axis variables to an integer

value corresponding to said functional state when said logic expressions

evaluate true; using a grid declaration (column 5, lines 33-41) that converts said

n axis variables to a unique linear index value that corresponds to the cross-

product (column 5, lines 43-45) of said functional states (column 4, lines 12-31)

achieved by the design by multiplying the integer value (column 1, lines 30-35) of

each said axis variable except the nth said axis variable by the product of the

sizes of each higher-order axis than the axis to which said axis variable

corresponds, summing the results, and adding the integer value of the nth said

axis variable, said grid declaration (column 5, lines 33-41) also records a hit and

maintains a map of hits at each linear index value determined during a

simulation, and downloads said map to a database (column 1, lines 23-25); and

translating said monitor (column 5, lines 35-43) declaration (column 5, lines 33-

41), said axis declaration (column 5, lines 33-41), said logic expressions, and

said grid declaration (column 5, lines 33-41) into a computer program comprising

a higher-order software language, and translating each said unique linear index

value to a character string comprising a concatenation of character strings that

correlate to said grid name and to each said functional state within said cross-

product (column 5, lines 43-45) achieved by the design.

Correspondence Information

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Mr. Tom Stevens whose telephone number is

571-272-3715, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Leo

Picard at (571) 272-3749. Central Fax number is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application

should be directed to the TC 2100 Group receptionist: 571-272-2100.

July 13, 2005

THS

Primary Examiner
Art Unit 2125